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Analysis Of Variations In Rainfall And Flow Regimes In The Poorly Gauged, Semi-arid Basin. (Case Of The Tafna Basin, Western Algeria)

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Abstract : Climate variability and inadequate water resource management, may be the main factors affecting water levels and water resources in algeria basins. The Tafna Basin in western Algeria is a semi-arid region and poorly gauged. The study examines the influence of precipitation, geological, topographic, and anthropological factors on water levels in the Tafna Basin. The analysis of five basins, based on rainfall and deposition data from 1976-2006, reveals that altitude basins have different water levels based on their geological context. Altitude basins have a higher base flow and a higher base flow index (BFI) compared to plain basins, possibly due to the lithological nature of the formations. Annual precipitation trends show no significant trends, except for a decrease in mean annual rainfall only on two altitude stations and a significant decrease in base stock in two altitude and one plain basin. The decrease in BFI is only significant at 1% for one altitude station, indicating a decrease in stock in altitude basins. The modification of base levels in some Tafna basins could be attributed to other factors, such as anthropological nature, rather than a decrease in precipitation

Keywords : sem-arid basin, base flow index, trend analysis, karstic basin, poorly gauged
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